Regulating Access to Stimulate Competition in Postal Markets

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Abstract
This paper explores, from an economics and a legal viewpoint, access regulation in postal markets. According to the EU legal framework, the presence of entry barriers is a necessary condition for any intervention under competition law or sector-specific regulation. We argue that in a liberalized postal market, besides legal and regulatory entry barriers, there are no significant natural entry barriers that could ultimately prevent profitable entry. Hence, because of the absence of monopolistic bottlenecks, and even though some market segments have natural monopoly characteristics, mandatory access regulation (on top of competition law's generic non-discrimination principles, strengthened if necessary by regulation) is not needed to facilitate competition. It may even be counterproductive, as it could distort entry strategies and possibly limit innovation.

Keywords:
Postal markets, entry barriers, access regulation, competition policy.

JEL codes:
L87 (Postal and Delivery Services), L43 (Legal Monopolies and Regulation or Deregulation), L51 (Economics of Regulation), K21 (Antitrust Law)

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1. INTRODUCTION

In European Commission (2005), the Commission's most recent progress report to the Council on the application of the Postal Directive[1], it is stated:

> "Competition has yet to develop in the addressed mail segment outside niche services, and this suggests that limited initial market opening combined with sometimes limited regulatory capacity or certainty, advantages enjoyed by incumbents, and regulatory asymmetries have all combined to deter entry …The reasons for the continuously slow progress towards greater competition in fully liberalized postal markets are puzzling and deserve further analysis".

In this paper, we provide some elements for such an analysis. Clearly, with the market moving to a one-way distribution market and the abolition of legal barriers to entry (the reserved sector) in postal markets, the possibilities for competition increase, and we investigate whether effective competition is likely to develop on its own, or whether specific access regulation is necessary or desirable in attaining this end.[2] We argue that in a liberalized postal market, besides legal and regulatory entry barriers, there are no significant natural entry barriers that could ultimately prevent profitable entry. We thus conclude that, as a result of the absence of monopolistic bottlenecks, a large section of the postal market will be accessible after full liberalization. Focusing on downstream access (competitors inserting mail at a point further down in the network of the Universal Service Provider (USP)), we argue that specific mandatory access regulation, on top of generic non-discrimination principles found in competition law and strengthened if necessary in sector-specific regulation, is not needed to facilitate competition and may be counterproductive. Not mandating access does not imply that access will be unavailable: the incumbent may offer it on commercial terms. Furthermore, regulating access may bias entry strategies towards a specific entry mode, thereby possibly limiting innovation.

The Postal Directive does not impose specific access rules. It refers to transparent and non-discriminatory access to the postal network, to tariffs and special tariffs having to be "geared to cost", and to the USP having to take into account avoided cost when setting special tariffs. Access is otherwise left to negotiations between market players. The

* The paper is based on the TILEC study "'Light is Right': Conditions for Competition and Regulation in the Postal Market' (June 2005) that was commissioned by Deutsche Post World Net and TNT. We thank the editors for helpful comments.

[1] Directive 97/67 of 15 December 1997 [1998] OJ L 15/14, as amended by Directive 2002/39 of 10 July 2002 [2002] OJ L 176/21.

[2] This paper does not discuss the appropriateness of liberalizing the postal sector as such; hence, we do not consider the risk of a "graveyard spiral"; see Crew and Kleindorfer (2001). It is assumed that liberalization is justified and that the USO is adequately dealt with.

European Commission (2005) states that access is an important issue that merits further analysis, that it appears premature to draw any conclusions at this stage, and that:

> "Access can help facilitate market entry for upstream consolidators. New competitors who want to establish a delivery network can also use access for a transitional period to build up customer relationships and volumes, before being able to compete end to end with the incumbent".

This no doubt is true, but it seems only one side of the picture. If mandating access at regulated tariffs makes access cheap, as compared to rolling out alternative infrastructures, then a natural development of full end-to-end competition may be hindered, or may be prevented altogether. As infrastructure competition typically offers more scope for innovation by entrants and provides stronger incentives for cost reduction, upsetting the balance by making available a mandated downstream access alternative may thus be counterproductive. In this paper we argue that, taking into account EC competition law and using the principles underlying the most recent regulatory thinking (in particular the EC Electronic Communications Framework), downstream access should not be mandated via regulation. In our view, the absence of insurmountable natural entry barriers implies that a hands-off approach, a regulatory commitment to negotiated access, leaving the development of competition – and also of the *type* of competition – to the market, is most desirable.

Our conclusion, hence, differs somewhat from that reached in NERA (2004) and Moriarty and Smith (2005), in which it is suggested that regulated access to delivery networks may be necessary to have substantial scope for competition. We agree about the potential for competition, but in our view, given that delivery is not a monopolistic bottleneck, the incumbent will typically want to benefit from scale economies and, hence, find it to be in its interest to provide access, especially when a non-discrimination requirement is in place. Consequently, we argue for relying on 'freedom of contract', instead of obliging the USP to provide access at regulated terms. If it were nevertheless found that regulatory intervention could bring added value, we believe that the requirements of transparency and non-discrimination should be sufficient to establish a competitive postal market.

We note that our conclusion is in line with that of Van der Lijn and Meijer (2004). Our paper complements theirs, among others by providing a more elaborate legal perspective. We discuss the added value of our contribution more extensively in the concluding section, where we will also discuss related literature such as Crew and Kleindorfer (2002) and Panzar (2002).

The remainder of this paper elaborates our arguments. In Section 2, we set out the legal framework in Europe, leading to the conclusion that the presence of barriers to entry is a necessary condition for any intervention, whether under competition law or sector-specific regulation. In Section 3, we ask whether, in the postal market, there are natural barriers to entry, and we provide some indicative calculations to show that, already with a low market share, entry may be profitable. In Section 4, we explain the difference between natural monopolies, and monopolistic bottlenecks and argue that, even though segments of the postal market may be a natural monopoly, there is no economic justification for regulatory intervention on access as there are no monopolistic bottlenecks. In Section 5, we feed the results of the economic analysis into the legal framework and come to the conclusion that a hands-off approach is most desirable.

2. THE LEGAL FRAMEWORK IN EUROPE

2.1 The relationship between competition law and sector-specific regulation

With full liberalization, the reserved sector vanishes, and with it the need for detailed regulation to delineate and manage it. The whole sector is open to the workings of the market economy except for any regulation of the USP. So regulation must rest on solid economic analysis in order not to cancel the benefits of the operation of the market. Regulation based on technical characteristics should be discarded in favor of regulation based on economic analysis.

The design of economic regulation involves a consideration of two regulatory instruments, namely competition law (as a general form of economic regulation) and sector-specific regulation. At the outset, it should be underlined that the relationship between the two is conceived differently in Europe than in the US. In the latter, sector-specific regulation will usually be expected to include provisions to deal with conduct harmful to competition, and if it does, antitrust law is likely to be found inapplicable.[3] In the EU, in contrast, EC competition law is enshrined in the EC Treaty, and hence it is and remains in principle applicable irrespective of sector-specific regulation. The dominant view is that sector-specific regulation should thus concentrate on issues that are not adequately addressed via general competition law.

As this paper is concerned with the situation in Europe, the EU approach will be followed. In this respect, the conceptual and analytical principles of the new regulatory framework for electronic communications are very relevant: there is no need to re-invent the wheel. However, simply transposing the end-result of the regulatory process from one sector to the other is neither convincing nor responsible from an academic perspective. Rather, the main lesson to be drawn from the new framework in electronic communications lies in the significance of a principled approach to regulation, which starts from the fundamentals.

In line with the above, the electronic communications framework rests on a view of sector-specific regulation and competition law as complementary instances of economic regulation. Since competition law is generally formulated and applicable across-the-board, it also serves as a benchmark for sector-specific regulation. Sector-specific regulation is meant to be aligned with competition law in substance. This implies using economic analysis and following the well-known steps of market definition, market analysis and remedies. Regulation which follows in the footsteps of competition law in substance is likely to be justifiable, whereas regulation exceeding the bounds of competition law should require a specific justification.

2.2 The starting point: competition law

In light of the above, it is useful to start by considering how competition law would apply to a liberalized postal sector. For the sake of argument, we leave aside market definition and the assessment of dominance, and simply assume that the incumbent would be found dominant on a relevant market comprising the provision of downstream services to competitors. The prohibition on abuses of dominant position at Article 82 EC implies

[3] See *Verizon Communications* v. *Trinko*, Docket No. 02-682 (US Sup Ct, 13 January 2004)

then that the incumbent would be bound to refrain from certain types of conduct, or in other words, that it would be under certain obligations as to its conduct. Two types of obligation come into question here: access to facilities and non-discrimination.

2.2.1 Access to facilities

Access issues are sometimes brought under the keyword "essential facilities", but what matters is the test put forward in the case-law of the European Court of Justice (ECJ). In the case of physical facilities, the current test results from combining *Bronner* with *IMS*.[4] This test applies in order to judge whether a firm should be ordered to open up a facility (seen as a separate relevant market) in order to enable a competitor to compete with the firm on a secondary market. Before competition law can be invoked to force the opening of production facilities, four conditions must all be met:

a) the facility is indispensable to operate on the secondary market, i.e. it cannot be economically duplicated;
b) the refusal to give access to the facility is unjustified;
c) the refusal to give access prevents the emergence of a new product for which there is customer demand;
d) the refusal to give access is likely to exclude competition on the secondary market.

Conditions a) and d) appear most relevant here and will be reviewed in turn.

Indispensability of the facility. This condition was discussed at length in *Bronner*. That case is especially interesting since it is not only relevant as a legal precedent, but also on its facts. In *Bronner*, a small newspaper publisher in Austria (Bronner) wanted access (against reasonable remuneration) to the nationwide home delivery system of the largest newspaper publisher (Mediaprint), arguing that its own delivery method (using the Austrian post) was not competitive, and that it could not on its own (given its small circulation) create a parallel delivery system. The ECJ was asked by an Austrian court whether Mediaprint's refusal to grant Bronner access constituted an abuse of dominant position within the meaning of Article 82 EC. The ECJ started by recalling that the first step is market definition: there might be existing substitutes to Mediaprint's system, thus making the relevant market larger and possibly leading to the conclusion that Mediaprint is not dominant.[5] Next, on the issue of indispensability, the ECJ adds that even if the relevant market were made up by Mediaprint's system alone that does not suffice to make Mediaprint's nationwide system indispensable.[6] The ECJ notes that (i) there are other methods of delivery available (post, etc.) even if they are less advantageous[7] and (ii) competitors of Mediaprint can always, alone or in cooperation, set up a rival nationwide newspaper delivery system.[8] Very importantly, the ECJ adds that

[4] The indispensability condition is not dealt with as a separate condition in ECJ, 29 April 2004, Case C-418/01, *IMS Health*, not yet reported, since the case deals with intellectual property, which is by definition not duplicable (or only within narrow limits in the case of copyright) and thus indispensable. It is covered at length in ECJ, 26 November 1998, Case C-7/97, *Bronner* [1998] ECR I-7791, which deals with physical property. For the rest, the tests put forward in the two cases are similar, with the *IMS* case specifying that the conditions are cumulative.
[5] *Bronner*, ibid., para. 34.
[6] Ibid., para. 42.
[7] Ibid., para. 43.
[8] Ibid., para. 44.

> "it is not enough to argue that [creating a rival system] is not economically viable by reason of the small circulation of the daily newspaper or newspapers to be distributed… [I]t would be necessary at the very least to establish…that it is not economically viable to create a second [system] with a circulation comparable to that of… the existing scheme. "

Elimination of competition on secondary market. In sectors such as electronic communications or energy, entrants have a limited number of entry strategies, sometimes only one. In some cases, these strategies require access to the incumbent's facilities. In contrast, if there were a larger number of entry strategies, some of which would not depend on mandated or regulated access to the incumbent's infrastructure, there would be competition on the secondary market in any event. In that case, a competitor requesting access to the incumbent facilities would thus not be invoking competition law in order to have a chance at all to enter the secondary market; rather, it would be trying to use competition law to support a specific entry strategy despite the existence of a range of other available strategies. Put in the balance against competing policy considerations – respect for property rights of the owner of the facilities – this would go beyond the role of competition law.

2.2.2. Non-discrimination

On the assumption that a dominant position has been found, the holder of that dominant position is typically bound by an obligation of non-discrimination, i.e. discriminatory treatment is likely to constitute an abuse. Non-discrimination implies first of all that the dominant firm treats all third parties on the same footing, i.e. by offering similar terms and conditions.[9] Only objectively justifiable differences in treatment are accepted, for instance rebates directly related to the volume of business. In a context of vertical integration, the Commission has taken a further step and claimed that "in general terms, the dominant company's duty is to provide access in such a way that the goods and services offered to downstream companies are available on terms no less favorable than those given to other parties, including its own corresponding downstream operations".[10] To this day, the ECJ has not expressly endorsed the Commission's view. We note that applying this latter extension of the non-discrimination principle may be difficult, or may require considerable (and costly) accounting adjustments. In any event, it should not be used as a backdoor to impose access obligations which cannot be imposed under cases such as *Bronner* and *IMS Health*, as discussed above.

An interesting feature of the postal sector in this respect is that part of the work involved in providing a postal service can also be done by the sender itself. Typically, large clients can involve in work sharing, carrying out some of the sorting operations themselves and then deliver the mail to the incumbent at some further point down the processing and transport chain. In return for doing part of the work, these clients obtain various rebates. The obligation not to discriminate under Article 82 EC implies that the rebates and other

[9] See Larouche (2000), 218-230, relying on leading case-law, including CFI, 6 October 1994, Case T-83/91, *Tetra Pak II* [1994] ECR II-755, confirmed by the ECJ, 14 November 1996, Case C-333/94 P, *Tetra Pak II* [1996] ECR I-5951.

[10] European Commission 1998, para. 86. Here the main examples are to be found in telecommunications decisions.

special conditions available to large clients should be available to competitors as well when they accomplish the same work and deliver mail in similar quantities.[11]

2.3 The role of sector-specific regulation

If regulation is put in place, it should be aligned with the competition law principles set out above, unless a strong justification to the contrary can be found.

As to whether there is any room for sector-specific regulation, the Commission put forward a three-part test when selecting which markets could potentially be regulated, in the context of electronic communications.[12] That test is framed in general terms and there is no reason not to follow it also in inquiring whether there is any room for sector-specific regulation in the postal sector. Pursuant to that test, regulation only comes into question on markets (i) with high and persistent barriers to entry; (ii) with no prospect of effective competition behind those barriers over time; and (iii) where competition law alone does not suffice to address the problems. All of these conditions must be fulfilled.

Furthermore, if and when these conditions are fulfilled for a given market, a number of principles govern the imposition of regulatory remedies upon firms found to be dominant on that market. These principles are now central to the new framework for the regulation of electronic communications, but they are not new: they correspond to general principles of EC law and as such are equally applicable to the postal sector. They are *adequacy* (the regulatory remedy must address the problem which was identified) and *proportionality* (the regulatory remedy must be likely to remove the problem identified, must not restrict the freedom of firms more than is necessary to achieve its aims and must be in proportion to the problem in question). These principles are reflected in the structure of the Access Directive for electronic communications,[13] which provides a range of remedies for regulatory authorities to consider: transparency, non-discrimination, accounting separation, access and price controls. Very importantly, this range increases in intensity, and in line with the principles of adequacy and proportionality, authorities must first look at the lighter remedies and consider the heavier ones only if the lighter ones can be proven insufficient.

2.4. Conclusion on the legal framework

Whether it is to assess whether downstream access can be forced pursuant to EC competition law or to decide whether sector-specific regulation of downstream access is required, the key issue is whether substantial entry barriers are present. Only then are the *Bronner/IMS* conditions met and the first condition for the justifiability of sector-specific regulation fulfilled. We now address this issue from the economic point of view.

3. ENTRY BARRIERS AND ENTRY STRATEGIES

It is common to distinguish entry barriers into "natural", "strategic", and "legal" ones, where the latter category also includes regulatory barriers, such as regulatory uncertainty. As the objective

[11] A point made by the Commission in its Decision of 20 October 2004, available on the DG COMP website (visited 20 May 2005), para. 86.
[12] European Commission (2003), Rec. 9. These threefold test is further developed in the Explanatory Memorandum accompanying the Recommendation.
[13] Access Directive: Directive 2002/19 of 7 March 2002 [2002] OJ L 108/7, Art. 9-13.

of postal market liberalization is to gradually remove the legal entry barriers, we will leave these out of our discussion.[14] Strategic entry barriers, those resulting from the possible anti-competitive behavior of the incumbent USP, can be tackled by competition policy, and will also not be discussed here.[15] Our focus will, hence, be on natural entry barriers, originating in structural characteristics of the market.

As noted in NERA (2004), the economic literature on natural entry barriers is less developed than is desirable. The literature offers a range of alternative, non-equivalent definitions, the most well-known being those of Bain (1956) ("an advantage that incumbent providers in an industry have over potential entrants, that allows them to elevate their prices above the level that could be expected in a competitive market without inducing potential entrants to enter the industry") and Stigler (1968) ("a cost of producing … which must be borne by a firm which seeks to enter an industry but is not borne by firms already in the industry.") According to both of these, sunk costs (costs associated with entry that cannot be recovered when the firm exits again), can be an important entry barrier. However, according to NERA (2004), sunk costs are negligible for most postal operations, specifically for those that build on computerized pre-sorting and manual sequencing; see also Panzar (2002), De Bijl et al. (2003) and the discussion in the next Section. Consequently, in the postal sector, sunk cost can effectively be ignored as a potential source of barriers to entry.

The two definitions, however, take a different stance as to whether scale economies are entry barriers: according to the Bain definition, they are, according to Stigler's definition, they are not. NERA (2004) shows that economies of scale (or economies of density, as they are called there) are very important in the postal sector: "When traffic increases on a fixed postal network, unit costs fall. In the original 15 Member States total costs would increase by 6.5 per cent if traffic on a fixed network were to increase by 10 per cent". We concur with Stigler that scale economies do not constitute a barrier to entry: if an entrant would have a superior technology, then it could make an offer to the large senders that would make all these senders better off and that would be profitable if it would be accepted by all these. To put this more precisely, scale economies *alone* do not constitute an entry barrier. It would only be impossible for the entrant to enter if the business senders were loyal to the incumbent, that is, if there simultaneously would be demand side inertia.

The same conclusion has recently been obtained, more generally, in McAfee et al. (2004). That paper, however, also concludes that scale economies *combined with brand loyalty* may produce an entry barrier. The intuition is easily seen: if customers display brand loyalty towards the incumbent, then the entrant can build up market share only slowly, hence, revenues will be lower at the start, and, if investments are lumpy and have to be incurred at the start of the operations, this may make entry unprofitable. The question thus is whether, in the postal sector, brand loyalty is so large, and investments so lumpy so as to induce an entry barrier in combination with scale economies. Direct evidence on the first issue is scant, but Moriarty and Smith (2005) show that, in the UK, costumer awareness of competition is low, thus inducing a kind of brand loyalty. We believe that this is a transitory phenomenon and that experience with liberalization in other sectors clearly shows that large costumers quickly switch to better offers when

[14] The VAT exemption for USO postal services supplied by the incumbent constitutes an important legal entry barrier, as stressed in Moriarty and Smith (2005). We note that, in the Netherlands, the exemption applies only for mail that is handled at regulated USO rates, thus lowering this barrier.

[15] See Jonsson and Selander (2005) for a discussion of strategic entry barriers in the Swedish market.

these are available. Secondly, the postal sector clearly demonstrates that entry can be effected at different scales, and that investments can be postponed and carried out in a stepwise manner to match with demand. We conclude that scale economies do not constitute substantial entry barriers.

In other words, in our view, while theoretically some (non-artificial) entry barriers in the postal market may exist, these could only have a small effect. It is important to make a distinction between high and low entry barriers. The key question for policy is whether the entry barriers are so high as to make access regulation desirable. In order to assess whether it is justified to compel network access, it is important to determine the effects of possible entry barriers. In the process, one has to look at the alternatives, hence, one has to answer the question of what is the best way to do away with the limitations on competition resulting from entry barriers, if any. As we argue below, a large segment of the market is accessible for competitors: substantial entry barriers, that would justify regulating access to the USPs networks, do not exist.

In this respect, it is also important to note that entrants' customers can continue to avail themselves of the services of the incumbent postal operator (PO) for delivery zones or products not serviced by their competitive entrant. They can do this either directly themselves or through their entrant service provider, who can either use generic services of the PO for mail they do not wish to deliver themselves or negotiate special access agreements with the PO if volumes are sufficiently large to make this worthwhile for both parties; see Crew and Kleindorfer (2001, 2002).

Given scale economies in delivery, the natural question to address is how large a market share a 'reasonably efficient' entrant needs to obtain in order to reach cost parity with the incumbent. Although providing an answer is beyond the scope of this paper (as it depends on the precise details of the market under consideration, on the cost structure and the efficiency of the incumbent, on the wage premiums that it pays, etc.), we nevertheless provide a perspective by showing that the papers that have addressed this issue have come up with widely varying estimates.

Cohen and Chu (1997) were the first to calculate the critical market share that a competitor would need to capture in order to have the same unit cost as the US Postal Service. Their calculation is based on a cost function that is estimated on detailed data from the US Postal Services. They conclude that it is very difficult to enter the US market: an entrant that has a cost advantage of 50% and that delivers only one day a week would still need 15% market share in order to reach cost parity with the US Postal Service. An entrant that delivers two days a week would need 19% market share if it had a 50% cost advantage, and 23% if it had a 33% cost advantage. It seems that the critical market share for the US is relatively high.

A similar conclusion has been drawn for the UK in Postcomm (2004); also see Moriarty and Smith (2005). Annex 1 to the "Competitive Market Review" reports results from a model that has been developed by Royal Mail and concludes that significant volume may be required to compete profitably head to head with Royal Mail: "to match Royal Mail's present unit cost for delivery six days per week, and depending on the assumptions about new entrant's costs compared to Royal Mail, a new entrant might need to capture around 50% market share". As Chart A1.1 in that Annex shows, an entrant that delivers only one day per week would still need about 30% market share to reach cost parity.

Note, however, that the existing USP's cost function need not be very relevant for new entrants: they will not choose to mimic the business models and networks of incumbents. The latter originate from a time when the postal market was very different and they have been designed to fulfill the universal service obligation that is imposed on the incumbent. Entrants do not face such restrictions, and they will take advantage of the current situation. The postal market has moved away from a traditional two-way communications market, with businesses (rather than consumers) now being responsible for 80 to 90% of the mail that is offered. As single item residential mail is only a small segment of the market and as handling of it is costly, it is less attractive to entrants. They will predominantly focus on the B2B and B2C segments, both on high value mail as well as on bulk mail. Restricting ourselves to the latter, we note that entrants' ability to compete in this segment is enhanced by the fact that the market is relatively concentrated on the sender side. To illustrate, IG&H (2003) shows that, in the Netherlands, 50% of the mail originates from 500 to 600 large senders. Such mail can be pre-sorted electronically, hence, the entrant just has to focus on sequence sorting and actual delivery, where the first task can easily be done manually (hence, not needing costly investments) as long as the entrant serves a limited number of customers. Consequently, entrants can keep their operations straightforward and cheap by targeting a few large senders that generate sufficient volume. Indeed, several successful entrants in European postal markets, such as CityMail in Sweden, and Sandd and Selektmail in the Netherlands, seem to adopt models of this type.

The relevant question thus is what volume an entrant with such a business model needs in order to reach cost parity with the incumbent in delivery. As such an entrant will incur lower sequence sorting costs than a (traditional) incumbent that manually sequences the mail, we may focus on actual delivery. Obviously, to reach economies of scale, the entrant would like to limit the frequency of delivery as well as to restrict operations as much as possible to low cost, high-density areas; where its volume is thin, the entrant will prefer to hand the mail to the incumbent for delivery.

Studies for the Netherlands have concluded that an entrant's critical market share is low. Using the methodology from Cohen and Chu (1997), SEO (2003) concludes that an entrant to the Dutch market would only need 10% of the volume to be able to compete with the incumbent TNT Post (formerly known as TPG Post) on the basis of six delivery days per week, and that an entrant that limits delivery to 2 days per week only needs 3% of the volume. An appendix to SEO (2003) contains a separate analysis by the economic consultancy firm Nolan, Norton & Co that complements the Cohen and Chu (1997) methodology with data obtained from market parties and that discusses several alternative entry strategies. A green-field entrant, which has labor costs that are 60% of those of TNT Post, and that limits delivery to 2 days per week, needs 4% market share to reach cost parity with TNT. Such entrant would be very profitable if it would attract its business with a 10% discount as compared to the prices charged by TNT. In case the entrant already operates on related markets and hence can profit from economies of scope, entry (at existing prices minus 10%) would be profitable already with 1% market share, while cost parity would be obtained with 2% market share.

Given that the various estimates for the critical market share vary widely, it is important to complement the above model analyses with actual experiences. In the Netherlands, two entrants, Sandd and SelektMail, each had about 2,5% of the market in 2004 and each of them claims to make a profit. In Germany, PIN-AG, an entrant that started operations in 1999 and that focuses mainly on the Berlin area, claims to have reached profitability in 2003. Meanwhile, it has achieved around 20% of the local Berlin market. In Sweden, City Mail has been active since 1991, focusing mainly on delivery of pre-sorted bulk mail in urban areas. Jonsson and Selander (2005) report that CityMail has 7,5% of the overall market and that it has 25% of the market segment in which it is active. Also this company appears to run a profitable business. As the evidence shows, apparently, entrants in several countries can thus compete successfully even with relatively low market shares, thus showing the absence of 'meaningful' entry barriers.

In Section 2, we concluded that, according to current legal thinking in Europe, sector-specific regulation of downstream access would be justified only if substantial entry barriers are present. In this Section, we have concluded that there are no such barriers, hence, that regulation is not justified. In the next section, we will expand on the different types of entry strategies that entrants can choose from, and argue that regulation should try to avoid creating a bias towards certain entry modes.

4. NATURAL MONOPOLY, MONOPOLISTIC BOTTLENECKS AND ACCESS REGULATION

The reader may wonder how the above conclusion relates to the frequently made statement that the postal market is a natural monopoly (see, however, Ennis (2005) for a qualification to this statement). The answer is simple: although this statement may be true, it is misleading and hardly relevant for the discussion. While the term 'natural monopoly' is suggestive, the concept is associated with various misunderstandings. In particular, the following two statements are wrong in general: (i) "an industry that is a natural monopoly is best served if there is only one supplier"; (ii) "in an industry that is a natural monopoly, competition is not possible (viable), hence, such an industry will naturally be a monopoly."

To argue our claim, let us confine ourselves, for simplicity, to a single-product industry. In this case, the industry is said to be a natural monopoly if the cost function is sub-additive throughout, that is, unit costs are falling with output level. Consider statement (i). A monopolist would, presumably, have market power, leading to a higher mark-up, hence, a price above marginal and average cost. A successful monopolist may raise the price above the level that would result under competition, even though in the latter case, the cost would be higher. In other words, lower cost need not translate into a lower price. Furthermore, if the monopolist is shielded from competition, it need not have an incentive (or not as strong an incentive) to reduce costs. In other words, competition may lead to cost reductions that may not be (as easily) available in a monopoly. Put differently, taking a dynamic perspective, competition may lead to entry even if costs are sub-additive. Of course, regulation may limit the exercise of market power by the monopolist, hence, it may improve allocative efficiency, while maintaining (static) cost efficiency. However, regulation will not be perfect and will probably not be as effective as competition in reducing cost. Hence statement (i) is not necessarily true.

Statement (ii) – competition is not viable in naturally monopolistic industries – *is* true if competition takes the form of price competition in a setting of homogeneous goods, *à la* Bertrand. This is the most intensive form of competition that can be imagined: it assumes that providers do not differentiate their products, that consumers are fully aware of the prices and that they switch to a cheaper provider no matter how small the discount that this provider offers as compared to the incumbent supplier. For other forms of competition that are less intense than Bertrand competition, entry is possible and can be profitable in markets that are natural monopolies. An example is provided by quantity competition *à la* Cournot, or in a situation of price competition with horizontally differentiated goods. In such cases, competition is less intense, the price cost margin is positive and entrants can profitably enter. Consequently, statement (ii) is not generally true.

The above discussion is in line with the ''contestability' literature (Baumol and Willig, 1981) that showed that a natural monopoly does not in itself necessarily present insurmountable entry barriers, and also that, if a company does not have to sink costs in order to enter the market, the threat of competition will discipline the incumbent; it will refrain from demanding non-competitive prices because of the risk of being undercut by a potential entrant. In some industries, however, certain network elements are of such a nature that, in order to be able to provide services to the customers, access to them is essential: in railways and electricity, for instance, it is not economically feasible to reproduce the physical network. These cases involve a monopolistic bottleneck that a company must pass through if it wants to provide services, which provides a protective wall behind which the incumbent can hide.

Thus, the relevant question is not whether the industry is a natural monopoly, but rather whether entering the market requires specific sunk investments so that there is a monopolistic bottleneck. As we argued in Section 3, and more extensively in De Bijl et al. (2003), there are no essential facilities in the postal sector. Indeed, as Section 3 has shown, it is possible to enter certain (product or geographical) segments of the market while incurring only low sunk costs and still attain a stable market position. From there, the entrant can eventually grow further (still with only moderate sunk costs) and find a stable market position once it has reached a larger size, and so forth.

In short, there is room for various entry and growth strategies, and as a consequence, one does not have to help entrants get over a high entry barrier even at the expense of introducing at the same time a bias in the entrant's strategic choices and potentially curbing its incentives to innovate. The absence of sunk costs allows entrants considerable flexibility in the design of their organization and operations; this guarantees a high measure of allocative efficiency over time and promotes innovation. As noted above, the experience of several entrants to date illustrates that there are segments of the postal market in which a newcomer can enter and realize positive profits. To serve these segments, entrants can choose entry based on negotiated access with the incumbent USP or end-to-end competition by investing in their own facilities. They can also choose to target various market segments (geographical and customer type).

From telecommunications markets we know that regulation strongly affects the incentives on whether and how to enter the market (or a segment thereof) and that, since entry modes may depend, for their viability, on the regulatory framework, there is 'demand' for certain regulatory interventions. The question is, however, whether regulators should accept to satisfy that demand and attempt to foster certain types of competition, or let the market determine what works best. Access in the postal sector (in all its forms) is a complex good, which varies according to various idiosyncratic features such as mailing patterns and collection patterns. A mandatory access regime, since it makes access under the regulated parameters readily available, can pre-empt the determination of the most adequate terms and conditions of access by market parties. It could also lead to micro-management by the regulator, with additional frictional and transaction costs relative to the alternative of allowing entrants and the incumbent to negotiate the terms of access freely.

The postal market allows for a variety of entry strategies. In the absence of barriers to entry, the legal and regulatory framework should, therefore, aim to avoid creating a bias in the strategic decisions of entrants in favor of a business model fostered by the regulatory intervention.

In addition, it is important to note that entrants face regulatory uncertainty when deciding whether or not to invest. As a consequence, they may act more cautiously, to wait and see which regulation will apply in the liberalized segments, thus resulting in a delay of entry and investments, slowing down the maturing of competition: entrants choose a smaller coverage, or invest less in their own facilities, than without regulatory uncertainty. If investments are delayed in a particular segment, entry can also be delayed in other segments, in particular if entrants become active in a stepwise manner: entering the next segment only if entry in the previous one was successful. Hence, as a result of regulatory uncertainty, overall entry might be delayed and the strong position of incumbents might be maintained longer than necessary, increasing the need for heavy-handed regulation. In addition, regulatory uncertainty creates a bias towards entry modes based on access, and away from investments in their own facilities. In this respect, it would be best to settle the access issue once and for all.

In order to make access operational, both the incumbent and the entrant have to adapt their internal organization and processes. The incumbent has to create 'space' for the incoming mail volumes, both physically and with respect to capacity and planning. The entrant has to set up its processes such that they are in line with the incumbent's requirements for incoming mail volumes. The investments that the firms have to do to make this possible are specific for this activity only. This creates a mutual dependency among the firms. In the case of unforeseen events, such as an 'external event' causing a hiccup in the incumbent's sorting/delivery system or a failure by the entrant to deliver the agreed volume, the firms (or at least one of the involved parties) will try to renegotiate the charges and conditions of the access agreement. Given that their interests are not aligned, this will not be easy and will involve substantial transaction costs, for instance because the regulator, or perhaps a court, will have to intervene. Furthermore, given that contracts will always be incomplete, one can expect that these types of problems will arise sooner or later; see Hart (1995). An entrant that does not rely on access but invests in its own facilities will be facing a higher investment 'hurdle', but it benefits by not having to make asset-specific investments of the type needed in the case of access-based entry. Consequently, such an entrant will not be subject to a 'hold-up' problem and costly problems of renegotiation will be avoided when entrants do not rely on access. As the literature shows, in the case of complementary assets, investment and innovation is spurred by vertical integration, hence, stimulating end-to-end competition may yield dynamic benefits. Policy makers would be well advised to take the costs and inefficiencies caused by incomplete contracts and renegotiations into account when designing regulatory interventions.

It seems to us that, up to now, the two issues discussed in the previous paragraphs, regulatory uncertainty and incomplete contracting, might not yet have received the attention they deserve, and that due consideration of these issues may well reverse the preference from access-based competition over end-to-end competition. In any case, they strengthen our argument for a light-handed regulatory approach.

5. CONCLUSION

In this paper, we have sought to take a fresh look at European postal regulation in anticipation of the full opening of the market. We have focused on the regulation of relationships between competitors, and in particular on the need for regulation mandating downstream access. We have chosen to start from the fundamental questions and avoid the kind of shortcuts, which can be observed in some of the literature, whereby the outcome of regulatory processes in similar sectors is simply transposed over to the postal sector.

The starting point must be the economics of the postal sector. On the basis of theoretical considerations and practical evidence, we have seen that neither economies of scale nor economies of scope constitute a substantial barrier to entry. Furthermore, the postal sector is characterized by the absence of monopolistic bottlenecks so that any sunk cost advantages for incumbents are not very substantial. Rather, entry in the postal sector can take place at different scales, and here theory and practice concur in showing that a number of different entry strategies are available and potentially successful.

These findings have a number of consequences for the regulation. With the full opening of the market, regulation must be fundamentally rethought, and it must be firmly grounded in economic analysis. In the European context, any legal analysis must then start by considering competition law as a starting point, since sector-specific regulation must be aligned with competition law and would only be justified if the policy objectives could not be attained via competition law.

Under competition law, our finding that there are no monopolistic bottlenecks in the delivery chain implies that the essential facilities doctrine cannot be used to impose downstream access obligations upon the dominant postal operator. Following the reasoning of *Bronner*, competitors can create a rival delivery system and bypass that of the incumbent, and some of them are already doing so. That these competing systems are not or would not be identical to the incumbent's – whether in terms of coverage or frequency –does not turn the incumbent's delivery system into an essential facility. Finally, on the basis of *Bronner*, a competitor would have to show that, even with a volume of business comparable to the incumbent, it would not be "economically viable" to put together a competing postal delivery system. As was seen in Section 3, even with a volume of business substantially smaller than the incumbent's, competitors can already enter the market profitably on the basis of their own facilities. Accordingly, on the basis of the test in *Bronner*, downstream delivery does not constitute an essential facility. Furthermore, on the assumption that the incumbent postal operators would be found to hold a dominant position, competition law will apply to as to put them under a non-discrimination obligation.

Transposing these results in the regulatory discussion, this implies that *prima facie* there is no justification for heavy-handed regulatory intervention. This conclusion is strengthened when the analytical framework used to select relevant markets in the electronic communications sector is applied to the postal sector: in the absence of barriers to entry lasting over time (first condition of the three-pronged test), downstream access would not qualify as a candidate market for regulatory intervention. Should there be any intervention, the principles of adequacy and proportionality would also dictate that a light regulatory framework, centered on the non-discrimination obligation arising out of competition law, would be sufficient.

Caution is all the more warranted where, as in the postal sector, there is no obvious entry path, which would be dictated by economies of scale, network effects or other constraints. Because of the different cost structure (little or no sunk costs), a number of different entry strategies are possible in an open postal market. Furthermore, the incumbent postal operator and entrants are likely to have incentives to enter into negotiations on access, so that access will be granted as a result of relatively balanced negotiations. In the absence of any overriding reason, regulation should hence avoid influencing how competitors enter the market by facilitating a particular entry mode.

We conclude by briefly relating our conclusions to those reached by several other researchers in the field. In connection with deregulation of network industries in the US, there has been an extensive discussion on the conditions in which a dominant firm should be forced to unbundle and share its facilities (on non-discriminatory terms) in order to stimulate competition. There is general agreement that compulsory access should be exceptional and one point of view is that the incumbent should be forced to share only in case of essential facilities. In line with Panzar (2002) we have argued that, in the postal sector, an argument for mandating downstream access cannot be built along these lines as the local distribution network cannot be seen as an essential facility. Kahn (2001) has, however, argued in favor of a stricter requirement for mandatory sharing in which incumbents that have inherited facilities and consequent scale economies from their monopolistic past would be forced to allow entrants to share in the associated efficiencies. Along these lines, Crew and Kleindorfer (2002), Panzar (2002) and Moriarty and Smith (2005) have all discussed the pros and cons involved in mandating downstream access. While all of these authors agree that mandating downstream access may facilitate entry, most also write that such a policy may have costs as well: it may increase transaction costs, facilitate inefficient entry and inhibit facility based competition. Crew and Kleindorfer (2002) and Panzar (2002) also point to the difficulties of setting the appropriate regulatory rates, hence, the advantages of these rates being negotiated commercially. In this paper, we have pointed out that, in the European setting, competition law will always apply, hence, without sector- specific regulation, the incumbent will be forced to treat competitors in the same way as costumers, thus further tilting the balance in favor of negotiated access. Finally, in line with Kahn (2001) we have argued that mandatory access risks interfering with facilities-based competition and that the latter is to be preferred.

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